

REMARKS

The Examiner is thanked for the Office Action of October 6, 2005. Claims 1-7 and 11-12 are now pending in the application and claims 8-10 were cancelled in a previous amendment, and the Applicant reserved the right to pursue claims 8-10 in a continuing Application. Claims 1-7 and 11-12 were rejected under 35 USC §103 as unpatentable over Porcelli (WO98/51022) in view of Cellier (6,327,523) and Gross (6,195,523). For the reasons stated below and the amendments above, the Applicant believes that the Examiner's rejection has been fully addressed and the claims are in condition for allowance.

§103 Rejection

Cellier (priority date January 21, 1999) and Gross (priority date June 1, 1999) only qualify as prior art under §102(e)/§103, as the present invention claims priority to September 8, 1999. The Applicant expressly reserves the right to submit evidence of prior invention under 37 CFR §1.131, prior to the date of either the Cellier and/or Gross references should the Examiner find the arguments presented below as unpersuasive.

The *prima facie* case presented by the Examiner therefore requires that it would have been obvious to modify Porcelli (published, May 1, 1998) with the various features recited in Gross and Cellier that were not available to those skilled in the art until they were issued on 2/27/2001 and 12/4/2001, respectively, well after the priority date of the presently claimed application. Thus, we object to the implication that the teachings of Cellier and Gross would have been in possession of "ordinary skill" in the art at the time of the invention. See MPEP §2141.03. Thus, the Examiner's comments about 'hindsight' in the pertinent art, are relevant **at most** for a total of 98 days during the period between the filing of the Gross patent application and the priority document of the presently claimed invention.

We believe that this fact alone is evidence of improper hindsight about: 1) the ordinary skill in the art *at the time of the invention* and 2) the motivation to

combine the references. MPEP §2141.01(III). Thus, we request that the Examiner withdraw his §103 rejection.

However, we also believe that the §103 rejection is improper for the reasons stated below.

The Examiner clearly has stated that Porcelli, Cellier, and Gross all teach “geo-stationary” satellite constellations (page 4, para. 4).

Porcelli teaches geo-stationary high-eccentricity satellite orbits. $e > .7$ that have 8 and 12 hours (integral) orbits.

Cellier teaches multiple lower-eccentricity satellite orbits. $e < .505$ with 24 hour orbits. Cellier specifically teaches away from high eccentricity in the IEGO orbits, see cols. 5-6.

Therefore, we believe that the two references clearly teach away from each other and combining them with each is inappropriate. It appears as if Porcelli and Cellier are actually teaching opposite solutions, and, as such, there would be no reason to combine the references. Thus, we believe that it would not have been obvious to combine the references cited by the Examiner. See MPEP §2143.01(III) (just because the references can be modified or combined is not sufficient) and § 2143.02 (reasonable expectation of success must be shown). We find that because the Porcelli and Cellier references implement different orbital systems that there is no reasonable expectation that the Porcelli reference would benefit from modification to include multiple subconstellations (Cellier) each with common ground tracks (Gross) in the presently claimed invention. The combination is particularly improper because putting “more satellites” into orbit runs contrary to the purpose of both the Porcelli and Cellier teachings, as well as the presently claimed invention.

Further, regarding claim 6, the Examiner stated that Porcelli shows that the satellites have $\frac{3}{4}$ the altitude of a geo-stationary satellite at apogee (Figs. 3A/B). This appears to be in logical conflict with the Examiner’s rejections of claim 1, in which he stated that Porcelli and Cellier teach satellites in geo stationary orbits. Thus, the Examiner’s rejection of claim 6 is confusing: how can a geo stationary satellite be $\frac{3}{4}$ of the altitude of a geo stationary satellite at

apogee? Further, we believe that the Examiner has misapplied the Porcelli reference as it teaches that the "geostationary" satellites taught in that system become operational between 30,000 and 40,000 km (page 4) (which appears to be more than ¾ of the altitude of geostationary satellites), which is compared to the Applicant's altitude of 27,300 km (see ¶ 157).

CONCLUSION

Applicant believes that the amendments presented and arguments asserted and the amendments presented herein place all of the pending claims in condition for allowance. Should the Examiner believe that a telephonic or in-person conference would expedite prosecution of this application, he is invited to contact Applicant's counsel at the numbers listed below.

Respectfully submitted,
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